

## Underground London.

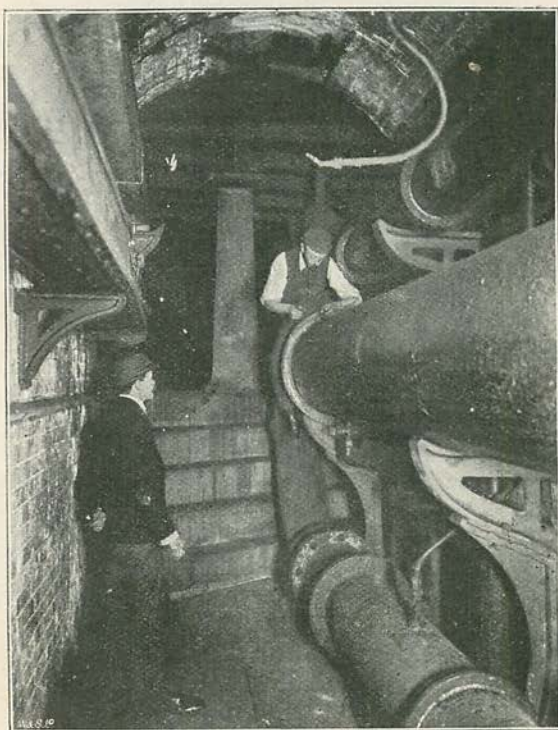
[From Photos. by George Newnes, Limited.]

**I**T is a time-honoured saying that, if you want to know anything about this great Metropolis of ours, you must not go to a Londoner in search of information. This is, no doubt, a trite remark, but the more one goes about, and the longer one lives, the more apparent becomes its truth. The foreigner—intelligent or otherwise—who comes to London is very properly inquisitive; he questions, he inquires, he seeks for all that is curious or interesting, with the natural consequence that, after a very few weeks' residence, he can often give points to the man who has lived in the "heart of the Empire" all his life. The average Londoner, on the contrary, is apt to take things very much for granted. He knows that, on the whole, matters affecting his safety and his health are well managed, and, such being the case, he does not bother his head much about the why and the wherefore. The vast organization, the capable administration, the host of details which have to be carefully thought out and rigorously applied—all these things are with the majority of people entirely overlooked. The end is good; why bother about the means? Thus is it that the average Londoner, and not least the travelled Londoner, while he waxes enthusiastic over the wonders he has seen abroad—tells us about the admirable municipal arrangements

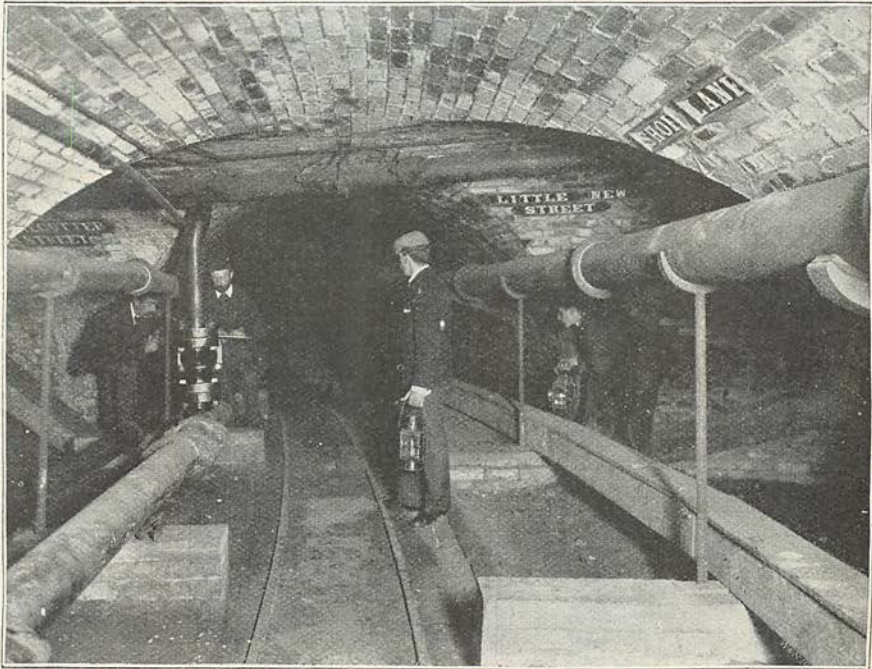
which prevail in New York, and describes with animation the wonderful catacombs of Paris and Rome—remains in total ignorance of the fact that here, in our great City, he might feast his eyes upon wonders no less remarkable did he but know of their existence. But it is useless to dilate in this vein; the Londoner will not be persuaded to go and see the wonders which lie at his very door. Only through the medium of the ever-inquisitive journalist, always prying about in the dark places of the earth, does he sometimes learn about and admire these native wonders, of the very existence of which he had not hitherto dreamed.

I am bound to admit that, so far as the nether world of the City was concerned, until a short time back I was not much better informed than the generality of my fellows. It is true I knew that there were such places

as subways and sewers; but that was about all. I had hardly the faintest conception of what they were like, and probably should have continued to remain in ignorance had it not been for a visit I paid them a few months back. Quite by accident I came across the "Report of the Improvement Committee of proceedings in connection with the Holborn Valley Improvement," which was issued five-and-twenty years ago, and desultorily turning over its pages, I was struck by the



A SUBWAY—SHOWING LARGE GAS-PIPE.



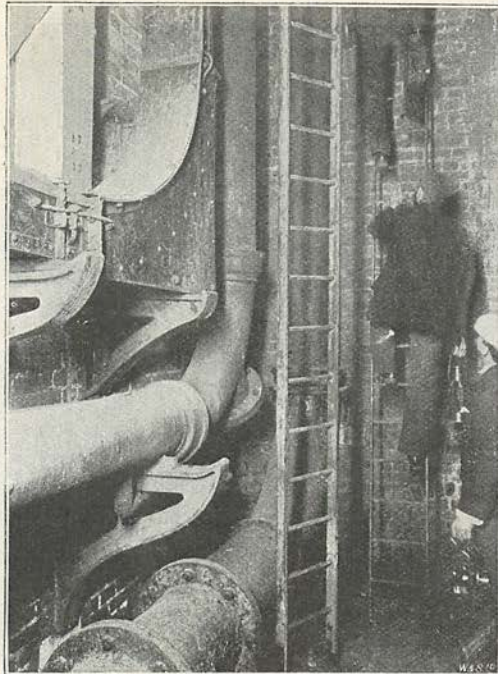
A SUBWAY CROSSING.

various references and diagrams in connection with the subways. The thing took my fancy: I discovered how ignorant I was of the underground arrangements which so greatly add to the comfort and safety of those sojourning within the "one square mile"; and I determined, with as little delay as possible, to make good the defect in my education.

So I applied to the City Commissioners of Sewers for the necessary authority, and right willingly was it accorded. The Chairman, Mr. H. G. Smallman, entered enthusiastically into the matter, remarking that if the thing was going to be done at all, it should be done thoroughly. Remember, this was the very first time that it had been pro-

posed to write an illustrated article on the subject. The Chairman was rather dubious as to whether we should be able to get any satisfactory photographs of the sewers; but at all events, he expressed his willingness to do all he could to help us. So that we started on our task under the best of auspices.

Behold us, then, one September afternoon assembled outside the large iron gate beneath Holborn Viaduct—that gate which most people have noticed, but the purpose for which it is used known to very few. Besides the Chairman, there were Captain Robert Gresley Hall, D.L., the Chairman of the Streets Committee; Mr. D. G. Ross, the City Engineer; and Mr. H. Montague Bates,



LADDERS CONNECTING SUBWAYS OF DIFFERENT LEVELS.

the Chief Clerk to the Commissioners, who, according to Mr. Smallman, is virtually the "permanent chairman." The photographer, with his assistant and the writer, brought our little party up to eight all told. When the gate opened at our summons, Mr. W. J. Liberty, the City Inspector of Subways and—under the Engineer—head of all practical matters appertaining to them, was waiting to show us over his territory. The iron gate, through which the sunlight was streaming, closed with a clang, and walking up two or three stairs, we set out along one of the thoroughfares of the underground city.

In the first instance, I experienced a feeling of disappointment. The reality was so different from what I had expected. My idea had



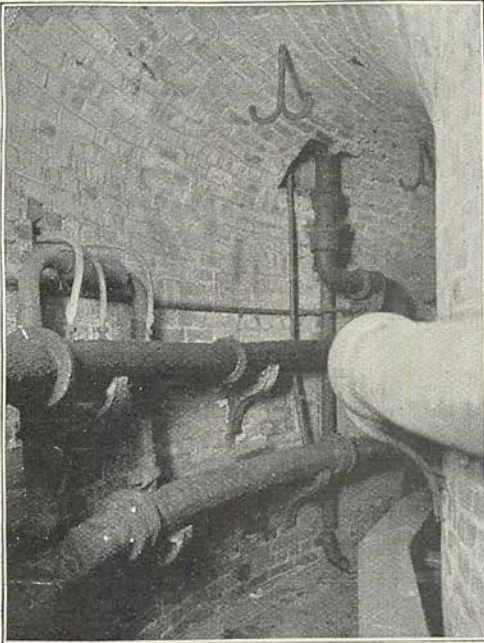
A NARROW SUBWAY OVER THE L. C. AND D. RAILWAY.

been that a subway would prove as Mr. Mantalini might have said, a "demonition deuced damp" sort of a place, smelling of the earth, dark and filled with an atmosphere resembling that of a charnel-house. And what did I see? A long, clean, and well garnished looking passage, dimly illumined by gas-jets (which, by the way, were specially provided for our visit), and having an atmosphere almost as healthy as that we had just left. But the feeling of disappointment soon gave way to one of admiration when we

walked along the subway, and the uses of the various pipes which ran along one side were pointed out to me. They include the mains of the Gas, New River, Hydraulic Power, and Electric Light Companies, also the



SUBWAY UNDER PRINCE CONSORT'S STATUE.



UNDER THE GREAT FIRE OF 1897, SHOWING THE MAINS WHICH SUPPLIED WATER TO THE FIRE-ENGINES.

pneumatic tubes and hundreds of wires belonging to the G.P.O.; and the arrangements whereby the service mains are connected to the various houses show that simplicity which constitutes the high-water mark of mechanical ingenuity. The usual time for making the connection is half an hour, and in case of non-payment of rates, a house can be cut off from its gas, water, electric light, or power supply in a few minutes, and this, moreover, without the unfortunate tenant or the general public knowing anything about it.

I was rather amused to notice that the names of the various streets under which we were passing were posted upon the walls, as were also the numbers of the houses served by the mains. Thus, in case of emer-

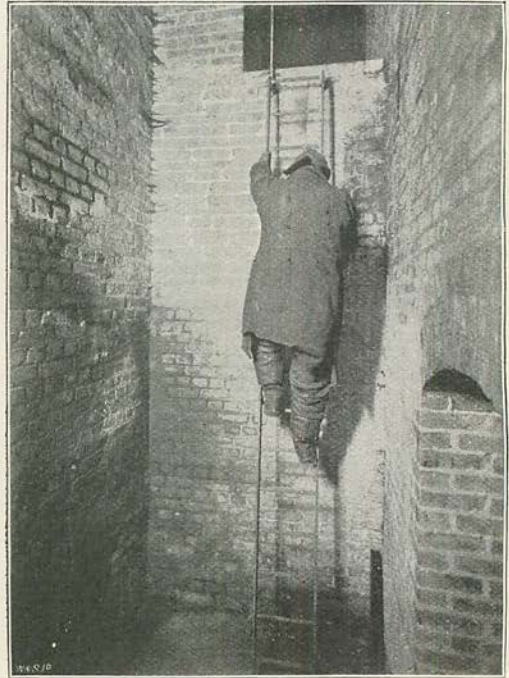
gency or fire, all that has to be done is to cut off the service at the particular branch where the mischief has occurred. As we went along, the Superintendent explained to me the exceedingly ingenious manner in which the difficulties incidental to the construction of the subways had been surmounted, and also pointed out how they were ventilated and generally kept sweet and clean. But as this is not a technical article, I need not weary the reader with such details; interesting as they are to those with a knowledge of underground engineering. Perhaps the most interesting subway of them all is the length on the southern side of Holborn, between Farringdon Street and Shoe Lane, which is lighted by gratings, filled with glass lenses, placed at intervals of 40ft. These render it sufficiently light by day for the purposes of inspection and work. The only daylight which gets into the others comes through the ventilating gratings in the footway, and this has to be supplemented by artificial light. It might be thought, in view of the possibility of leakage from the gas mains, that working in the subways might not be unattended by danger. The idea certainly struck me, and I speedily inquired of the Superintendent whether it was safe to smoke. His answer speedily reassured me. Every morning, before any work is done, a most complete inspection is made; armed with "Davys," the Superintendent and some of his men



SUBWAY UNDER THE BANK AND G.P.O.

make a complete tour of the subways, testing doubtful-looking places, and if anything wrong be discovered, speedily setting it to rights. And be sure an extra inspection is made before the arrival of any distinguished visitors.

Presently, I was astonished to learn that we actually stood over the London, Chatham, and Dover Railway! There we were, after painfully making our way through a subway which necessitated our walking bent double, in order to avoid striking our heads against the girders, directly above Snow Hill Station. Yes, there is no doubt about it. As we wait we can distinctly hear a train come in and the porters calling out its destination. It seems exceedingly close, but closer still, above us, we can hear the footsteps of the people on the pavement in Snow Hill. It is rather uncanny this, and especially so when one learns that only 6in. separates us from the street above and only a bare  $\frac{1}{4}$  in. of iron girder (for we are literally *in* a girder) prevents us from falling some 40ft. on to the metals! It is a novel experience (especially when the train is moving below, and the spot in which we stand is positively vibrating!), and we are glad to have had it, but everyone is obviously concerned in trying not to allow his sigh of relief to



DESCENDING FROM A VESTIBULE.

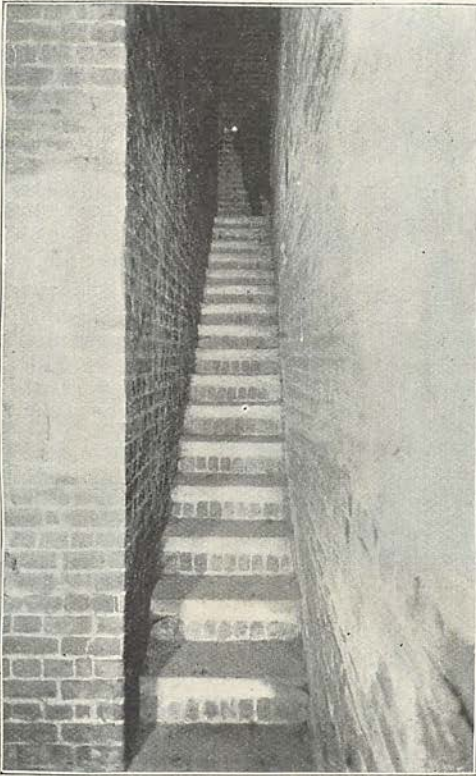
become too apparent when we resume our journey. If anyone looks pale, it must, of course, be attributed to the cramped position in which we have been standing!

Shortly afterwards we arrived at a spot which, we were informed, was immediately under the Prince Consort's statue at Holborn Circus.

Coming back to the Superintendent's office, I was shown a great number of coins nailed to the counter. These, I was told, came through the gratings placed at intervals for ventilating purposes. It appears that gentlemen who make a business of passing spurious coin sometimes find it necessary to get rid of their stock-in-trade with the utmost despatch; they drop the coins through the gratings under the impression that they will fall into the sewers and be effectually lost. Alas! for the guilty one's hopes, the coins are found shining on the clean stone floor of the subway, and go to swell the stock in the superintendent's office. I asked him whether other articles were ever found. He replied: "Yes, we get plenty of empty purses. This is what the light-fingered gentry do. They take them from the pockets, or so-called 'pockets,' of ladies, and after carefully emptying them, drop them down the shafts.



ENTRANCE IN SHOE LANE TO THE SUBWAY SEWERS.



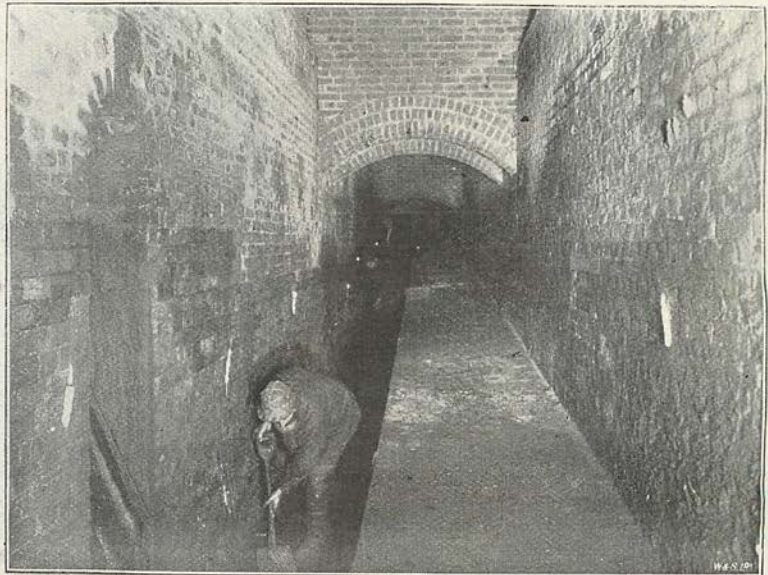
A STAIRWAY DESCENT.

We find most of these in the dark days of winter, and chiefly in the neighbourhood of crowded Smithfield. I seldom find a gentleman's purse; they mostly belong to City work-girls. The professional thieves know that when these girls draw their scanty wages on Saturday, they usually go to the great markets at Smithfield to make their little purchases, and ply their nefarious trade accordingly."

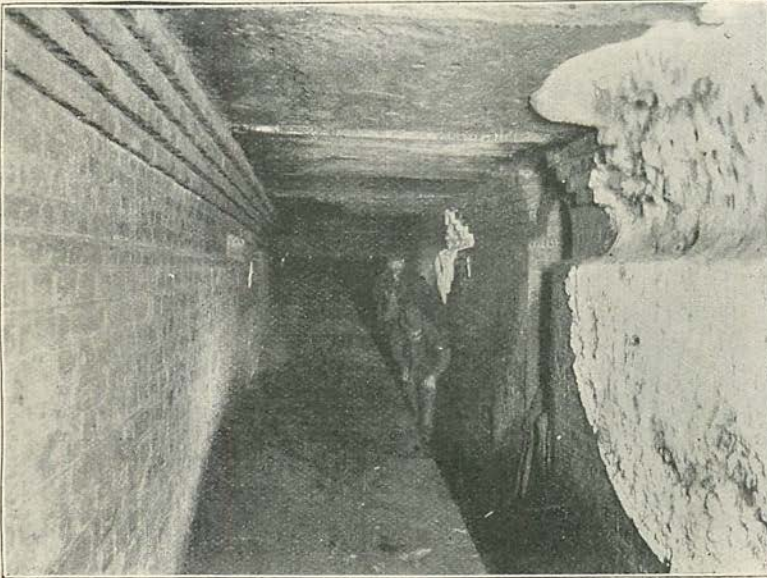
Another interesting object in the Superintendent's little room is the "Visitors' Book." In it the names of foreign visitors predominate; during the last year or so,

scientific men, engineers, and sanitarians from Brazil, Maita, San Francisco, Finland, Santiago, Cologne, Copenhagen, Sydney, and, in fact, almost every great city, have visited the subways. And in nearly every instance the visitor has written a few words expressing his surprise and admiration at what he has seen. I could have stayed a long time chatting to the Superintendent, but the shadows were already beginning to draw in, and it was time for us to start upon the second half of our journey.

First he took me to the subway sewers which lie under Holborn Viaduct. These sewers are quite unique in their way. As nearly as possible they follow the natural slope of the ground as it descended originally from the hills to the level of Farringdon Street, and consequently between the underside of the subways and the sewer is a large space, and the effect, when looking up from the latter, is very striking. Standing in the sewer (by the way, one is able to traverse these sewers dry-shod, a platform running along one side) one seems to be in a lofty vault. It is, of course, pitch dark, for even the glimmer of light coming through the gratings in the roadway which relieve the murkiness of the ordinary sewers is absent here. The space under the road in Farringdon Street is utilized for business purposes, large cellars having been constructed, with which communication can easily be made from the houses in the vicinity. These sewers are ventilated by square openings and



SUBWAY SEWER—HOLBORN CIRCUS.



SUBWAY SEWER—SHOWING GROWTH OF FUNGUS.

shafts, and receive all the drainage from the houses on the Viaduct. Very great care and ingenuity have been exercised in the construction of these sewers, and also in the disposal of the gas, water, and telegraph pipes in the subways; in fact, everything is so easy of access that it is thought that only under the most exceptional circumstances will it ever be necessary to open up the roadway, and thus cause a hindrance to traffic and stoppage of business.

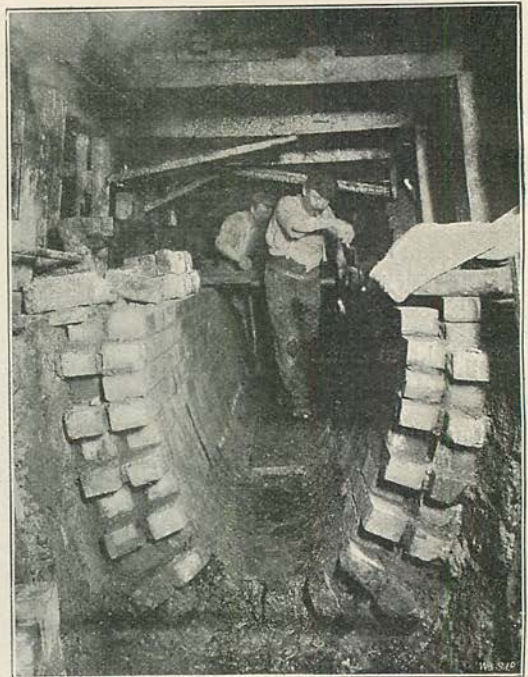
Before going down into the ordinary sewers it was necessary for us to equip ourselves. First off came our boots, and over our socks and trousers went thick woollen stockings, and over these huge waterproof boots reaching to the thighs. The upper part of the body was covered with a rough blue smock, very similar to those worn by the coastguardsmen. In fact, there was something altogether nautical about the whole rig-out, the resemblance being heightened by the oil-skin "sou'-westers" we wore on our heads. We were also provided with rough gloves, as we had to seize hold of things not very pleasant to the touch. Curious looking objects we were when fully dressed, although in one or two cases, which need not be particularized, the effect was decidedly becoming.

When all were ready, out we sallied into Farringdon Street. About 100yds. from the Viaduct is one of the familiar iron plates let into the pavement, and

this was our objective. Quite a crowd assembled to witness our descent; so large, indeed, was it that the kindly offices of two constables had to be requisitioned to enable us to get through. Many and diverse were the surmises with regard to our object. In spite of the fact that we were all smoking cigars, it never seemed to occur to any of the spectators that we were not the ordinary sewer-men. Most of the bystanders

thought something was wrong; this opinion rapidly gained ground, and in a few seconds it was freely whispered around that we were a "rescue party" going to succour some poor fellow who had been overpowered by the noxious fumes down below!

I am afraid, judging by the gingerly



ORDINARY SEWER IN COURSE OF CONSTRUCTION.

manner in which we went down the shaft, that we should not have been much good had any great difficulties been encountered. It was a primitive sort of ladder we had to go down, merely consisting of iron rings driven into the wall at intervals, and in our cumbrous and unaccustomed attire it was not a very comfortable job. However, we got down without any casualties, and, arrived at the bottom, found one of the sewer men waiting for us. He provided us each with a wooden scone holding a candle, and thus provided we went along a short, sloping passage, at the end of which stood another guide, who assisted us to step down into the sewer itself.

Down each one of us stepped into about a foot of swiftly flowing water; the Superintendent of the Sewers, accompanied by some of his men, placed himself at our head, and in single file we commenced our novel march.

I looked around me curiously. Down here the contrast presented with the clean and cheerful-looking subways was very great. Not, however, that there was anything



NATURAL CAVE, THROUGH WHICH BUCKLETSBURY SEWER IS CUT.

particularly offensive about the sewers. The air, though close and hot, was not offensive, and there was little or no odour in the large main. But from my position in rear of our party, I could not help but be struck by the weird picturesqueness of the scene. The pitchy darkness of the arched passage in which we stood was dimly lighted up for a few yards around by our candles as we passed along, and the lights and shadows danced and flickered up the walls and along the surface of the water like veritable Will-o'-the-Wisps. Far ahead another beam of light—light of a whiter and more translucent character than that shed by our candles—shone steadily across the channel. It neither flickered nor wavered, but in the distance, sharply outlined against the grim background, looked like a piece of wide tape drawn tightly from wall to wall and just resting upon the surface of the water. As we approached it seemed to broaden out and its edges grew less sharply defined; the blacks and whites began to run into one another until, when we got close up to it, it expanded and diffused itself all around us, and we saw that the little beam we had seen from a distance really came from Nature's own magic-lantern—was, in fact, neither more nor less than the afternoon sunlight finding its way through the narrow interstices of a grating! Why had we no great "impressionist" in our party, someone blessed with the seeing eye and the cunning hand to have seized upon that picture, to have retained it, and finally to have reproduced it as a marvellous study in blacks and whites? Certainly, no sun-lit ocean, no fog-enveloped city, no mist-laden stream could have furnished more



FLUSHING GATE OF ORDINARY SEWER.



fitting subject for a great painter than this beam of light in a City sewer.

On we went, our progress necessarily slow, for the bottom was slippery, and the stream ran swiftly past our legs. My guide explained that when there was a heavy downpour of rain outside, the word was given, and the men all went up to the surface, for the rush of surface-water filled the main almost up to the roof, and the augmented stream came sweeping along with the rush and roar of a mountain torrent. "No," he said, "we don't have accidents; we can't afford to. If a man once got caught in such a torrent, there'd be no saving him, unless the water happened to be lower at a junction, and he managed to

One of the sewermen was requested to bend down; upon his sturdy shoulders the apparatus was placed; then we all waited patiently until the magnesium wire flashed out and made us all blink. Whether the picture was a success or not may be left to the reader to say. Possibly the subjects are not looking very well pleased, but when you are standing in a stream of running water, and can feel yourself perspiring profusely under a lot of unaccustomed garments; while, moreover, the temperature is some twenty or thirty degrees higher than would be comfortable, and your eyes are getting a little strained by the curious half-light, it is by no means the easiest of tasks to obey the photo-



GROUP OF COMMISSIONERS AND AUTHOR, IN THE OLD FLEET SEWER.

regain his foothold, otherwise he'd be carried along with the stream until it discharged itself in the river at Barking. That's where he'd be found; at least, what was left of him."

The water, as I have said, was only from 1ft. to 18in. deep, but after this little conversation I found myself taking particular care as to how and where I put my feet down. Presently the photographer ordered us to halt and arrange ourselves. He wanted to take a group. Then a difficulty arose: his camera would rest upon its stand, but where was he to find a support for his flash-light apparatus? Happy thought—a human stand!

grapher's stereotyped command to "look pleasant." Our photographer, however, was a man of sense; he did not waste unnecessary time in giving us minute instructions how to deport ourselves, but having once got us focused, "took us" without further ado.

After being photographed, some of the party seemed disinclined to go much farther. So, leaving them in the broad main, the Superintendent, at my request, took me to some of the side-streets and by-ways of the underground city. As we went, I seized the opportunity of questioning him upon

his occupation. He seemed to think it was healthy enough.

"Oh, yes, men get knocked up sometimes, but it's more often through catching colds than anything else. You see, it's hot down here, and if men loiter about up above, especially in the cold weather, they're likely to get chills. No, we don't often have men on the sick list with fevers or anything of that sort. Why should we? Its healthy enough down here; you yourself can testify that the smell is no worse than that you often encounter in the open street. Now and again, of course, when at a bend or narrow passage, there's an accumulation of sewage, and the stream gets partially dammed, the men have a rather unpleasant job to perform; but as a rule the work is not so objectionable as you would imagine. Yes, sometimes a man will stay down here for six or seven hours at a stretch, and they seem none the worse. Smoke? Yes, as you see" (pointing to his pipe), "I smoke, and so do most of my men; possibly, if we didn't, the smells which we *sometimes* meet with might affect us more."

We entered one of the branches, and conversation, except of the most limited description, became impossible. The roof was so low that we had to bend almost double to avoid damaging ourselves; added to this, it was constructed on a sharpish incline, and the bottom being slippery, it was necessary to proceed with caution. As my guide explained, had it been a wet day this branch would have been quite unnegotiable; as it was, the water in it was only a few inches deep. This came from the surface, as I very soon saw, for at the top end was one of the gulleys covered with an iron grating, to be seen in the roadway.

Back we went as we had come; past the place where the main stream forks out into two branches, in which the current, of course, flows more slowly. Along one of these we went, then up another branch even smaller than the first and more difficult, for here the water was almost knee-deep, and was swirling and eddying like the river around the buttresses of one of the great bridges. Previously I had mentioned to my guide that if possible I should like to get a glimpse of some of the rats with which the sewers abound. He had explained that, though they came out more freely at night, he might manage to show me a few in one of the less-

frequented portions of the sewers. And this was the place he had chosen.

Painfully we made our way for some forty or fifty yards, and then, posting ourselves in a niche in the wall, we waited, but ne'er a rat did we see. Rather disappointed, we were just turning to go back, when I fancied I saw a dark shape flit past our feet. It may have been a rat or merely a shadow; at all events, I started and nearly lost my balance. With a clutch at my companion, I regained it; then, as I stood upright, found we were in total darkness. As I slipped, my scone fell from my hand, and was now being gaily borne eastward at the rate of two or three miles an hour, and, in grabbing at the Superintendent, I had inadvertently extinguished his candle; and we had not a match between us! The only thing to do was to grope our way back in the dark. Luckily, my companion could have found his way about blindfold, and consequently laughed heartily at our predicament. He led the way, and I followed, touching him lightly every few yards to make sure I was in his tracks, as the darkness was so intense that I could scarcely distinguish him. Now, I have a curious fact to relate. The Superintendent declares it was my imagination, but at the time I could have sworn that though never a rat made his appearance when, with candles lit, we stood on the look-out, they simply came out in shoals and rioted about our feet when we were journeying slowly and painfully in the dark. Well, it may have been imagination, and perhaps the journey in the dark had played upon my nerves more than I cared to own.

When we rejoined the rest of the party, they were all waiting and wondering what had become of us. They laughed heartily when we told our story, and frankly expressed their incredulity when I spoke about the rats. But they expressed no inclination to go and find out for themselves.

And so back we all went to the shaft, and one by one climbed our way to the surface. And how glad were we to get there! It was an exceedingly interesting experience, and one that it falls to the lot of few to have, and that I think all of us fully recognised. But after a couple of hours in the nether world, it was doubly delightful to feel the fresh breeze blowing on our cheeks, to hear the busy hum and clatter of the traffic, and to see once again the glorious blue sky over our heads.